



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/916,532 | 07/30/2001 | Hiroaki Nasu | Q63109 | 9048 |

7590 03/18/2003
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3202

| |
|----------|
| EXAMINER |
|----------|

HRUSKOCI, PETER A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1724

DATE MAILED: 03/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,532

Applicant(s)

NASU ET AL.

Examiner

Peter A. Hruskoci

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2001 and 04 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2&3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1724

1. Claims 15 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 15 and 16 "high molecular" is vague and indefinite because it is unclear how this term further limits the claims.
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. Claims 1-6, 9, 10, 12-17, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cassidy et al.. Cassidy et al. disclose (see col. 2 line 39 through col. 5 line 38) a process for treating a chromate waste liquid containing an organic component substantially as claimed. The claims differ from Cassidy et al. by reciting that the chromium precipitation accelerating agent comprises a calcium component. It is submitted that the addition of calcium hydroxide to adjust the pH in Cassidy et al. would appear to accelerate chromium precipitation as in the instant invention. It would have been obvious to one skilled in the art to modify the method of Cassidy et al. by adding the calcium component or hydroxide to accelerate the precipitation of chromium, to aid in removing chromium from the waste liquid. The specific pH adjusting agent and pH utilized, the chromate concentration of the waste liquid, and neutralization of the waste

Art Unit: 1724

liquid prior to disposal, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific waste liquid treated and results desired, absent a sufficient showing of unexpected results.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cassidy et al. as above, and further in view of Kreisler. The claim differs from Cassidy et al. as applied above by reciting that the precipitation accelerating agent comprises calcium chloride. Kreisler disclose (see col. 5 line 21 through col. 6 line 30) that it is known in the art to add calcium chloride in combination with calcium hydroxide to an industrial waste stream containing chromium and chelating agents, to aid in precipitating and removing chromium from the stream. It would have been obvious to one skilled in the art to modify the process of Cassidy et al. by addition of calcium chloride in view of the teachings of Kreisler, to aid in precipitating and removing chromate from the waste liquid. The specific amount of calcium chloride utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific waste liquid treated and results desired, absent a sufficient showing of unexpected results.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cassidy et al. as above, and further in view of Leggett et al.. The claim differs from Cassidy et al. as applied above by reciting that the precipitation accelerating agent comprises magnesium chloride. Leggett et al. disclose (see col. 1 line 42 through col. 2 line 60) that it is known

Art Unit: 1724

in the art to add magnesium chloride to an waste stream containing chromium and chelating agents, to aid in precipitating and removing chromium from the stream. It would have been obvious to one skilled in the art to modify the process of Cassidy et al. by addition of magnesium chloride in view of the teachings of Leggett et al., to aid in precipitating and removing chromate from the waste liquid. The specific amount of magnesium chloride utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific waste liquid treated and results desired, absent a sufficient showing of unexpected results.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cassidy et al. as above, and further in view of Gaughan et al.. The claim differs from Cassidy et al. as applied above by reciting that the waste liquid comprises a zinc component which is decreased at a second pH. Gaughan et al. disclose (see col. 3 line 19 through col. 4 line 73) that it is known in the art to add calcium and magnesium components to an aqueous waste stream containing chromium and zinc, to aid in precipitating and removing chromium and zinc from the stream. It would have been obvious to one skilled in the art to modify the process of Cassidy et al. by treating a waste liquid comprising a zinc component in view of the teachings of Gaughan et al., to aid in precipitating and removing chromate and zinc from the waste liquid. The specific pH utilized, would have been an obvious matter of process optimization to one skilled in the art, depending on the

Art Unit: 1724

specific waste liquid treated and results desired, absent a sufficient showing of unexpected results.

7. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cassidy et al. and Leggett et al. as above, and further in view of Heskett. The claims differ from the references as applied above by reciting that the chromate waste liquid is neutralized, and a dissolved magnesium component is removed by reverse osmosis or ion exchange. Heskett disclose (see col. 2 lines 20-58) that it is known in the art to utilize ion exchange or reverse osmosis to aid in removing magnesium from water systems. It would have been obvious to one skilled in the art to modify the process of the references as applied above by utilizing the recited reverse osmosis or ion exchange in view of the teachings of Heskett, to aid removing dissolved magnesium from the waste liquid. The use of acid to effect neutralization prior to disposal, would have been an obvious matter of process optimization to one skilled in the art, depending on the specific waste liquid treated and results desired, absent a sufficient showing of unexpected results.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter A. Hruskoci whose telephone number is (703) 308-

Application/Control Number: 09/916,532

Page 6


Art Unit: 1724

3839. The examiner can normally be reached on Monday through Friday from 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. David Simmons, can be reached on (703) 308-1972. The fax phone number for this Group is (703) 872-9310 (non-after finals) and 703-872-9311 after finals.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

P. Hruskoci
March 12, 2003


Peter A. Hruskoci
Primary Examiner
Art Unit 1724